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CLAIM AMENDMENTS

WHAT IS CLAIMED IS:

This listing of the claims will replace all prior versions, and listing, of claims in the application:

1. (~~Currently Amended~~) ~~Method~~ A method for controlling a valve with a valve actuating device—(24), which is provided in the form of a piezo actuator, with a valve element—(231), a valve body—(237) and a valve seat—(234), ~~in which the method~~ comprising the steps of:

- ~~moving at a predeterminable point in time—(t5)~~ the valve element—(231) is moved at a predeterminable point in time from a position in contact with the valve seat—(234) into a predetermined position away from the valve seat—(234) by a discharging process of the piezo actuator,

- dividing the discharging process ~~is divided~~ into a first discharging duration—(T4), during which a predetermined first amount of electrical energy is discharged from the piezo actuator, a subsequent holding time duration—(T5), during which the piezo actuator is not controlled, and a subsequent second discharging duration—(T6), during which a predetermined second amount of electrical energy is discharged from the piezo actuator, and

- dependent on the waveform of a voltage at the piezo actuator or a current through the piezo actuator which is characteristic of the oscillation behavior of the piezo actuator, adapting, during the holding time duration—(T5), the holding time duration—(T5) and/or the first discharging

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duration ~~(T4)~~ ~~is adapted~~ in order to ensure precise control of the valve.

2. (Currently Amended) ~~Method~~ A method for controlling a valve with a valve actuating device ~~(24)~~, which is provided in the form of a piezo actuator, with a valve element ~~(231)~~, a valve body ~~(237)~~ and a valve seat ~~(234)~~, ~~in which~~ the method comprising the steps of:

- ~~moving at a predeterminable point in time (t1)~~ the valve element ~~(231)~~ is moved at a predeterminable point in time from a predetermined position away from the valve seat ~~(234)~~ into the valve seat ~~(234)~~ by a charging process of the piezo actuator,

- dividing the charging process ~~is divided~~ into a first charging duration ~~(T1)~~, during which a predetermined first amount of electrical energy is fed to the piezo actuator, a subsequent holding time duration ~~(T2)~~, during which the piezo actuator is not controlled, and a subsequent second charging duration ~~(T3)~~, during which a predetermined second amount of electrical energy is fed to the piezo actuator, and

- dependent on the waveform of a voltage at the piezo actuator or a current through the piezo actuator which is characteristic of the oscillation behavior of the piezo actuator during the holding time duration ~~(T2)~~, adapting the holding time duration ~~(T2)~~ and/or the first charging duration ~~(T1)~~ ~~is adapted~~ in order to ensure precise control of the valve.

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3. (Currently Amended) ~~Method~~ A method according to ~~one of the preceding claims~~ claim 1,

~~in which~~ wherein the holding time duration ~~(T2, T5)~~ and/or the first discharging duration ~~(T4)~~ or the first charging duration ~~(T1)~~ is/are adapted dependent on the amplitude and/or the period of the waveform of the variable which is characteristic of the oscillation behavior of the piezo actuator during the holding time duration.

4. (Currently Amended) ~~Method~~ A method according to claim 3,

~~in which~~ wherein the holding time duration ~~(T2, T5)~~ is adapted dependent on the period of the waveform of the variable which is characteristic of the oscillation behavior of the piezo actuator during the holding time duration.

5. (Currently Amended) A method according to claim 3, wherein ~~Method according to one of claims 3 or 4,~~

~~in which~~ the first discharging duration ~~(T4)~~ or the first charging duration ~~(T1)~~ is adapted dependent on the amplitude of the waveform of the variable which is characteristic of the oscillation behavior of the piezo actuator during the holding time duration ~~(T2, T5)~~.

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6. (Currently Amended) A method according to claim 2,
wherein~~Method according to one of claims 2 to 5 dependent~~
~~on claim 2, in which~~ the sum of the first charging duration
~~(T1)~~ and the holding time duration~~(T2)~~ is limited to a
maximum value~~(T_MAX)~~, which ensures that the valve element
~~(231)~~ is still in contact with the valve seat~~(234)~~.

7. (Currently Amended) A method according to claim 1,
wherein~~Method according to one of claims 1 to 6, whereby~~
the valve is part of a pump/nozzle device with
- a pump, which has a piston~~(11)~~ and a working space
~~(13)~~, and
- a control unit, which comprises an outlet duct~~(22)~~
that is connected hydraulically to the working space~~(13)~~, the
piezo actuator that forms a valve actuating device~~(24)~~, and
the valve, whereby the valve comprises a valve element~~(231)~~,
a valve body~~(237)~~, a valve seat~~(234)~~ and an auxiliary
control chamber~~(232)~~ which is disconnected hydraulically from
the outlet duct~~(22)~~ when the valve element~~(231)~~ is in
contact with the valve seat~~(234)~~ and which otherwise is
connected hydraulically to the outlet duct~~(22)~~.

8. (Currently Amended) A method according to claim 7,
wherein~~Method according to claim 7,~~
~~in which~~ the first discharging duration~~(T1)~~ is limited
to a minimum value~~(T_MIN)~~, which ensures that the nozzle
needle~~(53)~~ closes the nozzle~~(56)~~.

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9. (NEW) Method according to claim 2,
wherein the holding time duration and/or the first
discharging duration or the first charging duration is/are
adapted dependent on the amplitude and/or the period of the
waveform of the variable which is characteristic of the
oscillation behavior of the piezo actuator during the holding
time duration.

10. (NEW) A method according to claim 9,
wherein the holding time duration is adapted dependent on
the period of the waveform of the variable which is
characteristic of the oscillation behavior of the piezo
actuator during the holding time duration.

11. (NEW) A method according to claim 9,
wherein the first discharging duration or the first
charging duration is adapted dependent on the amplitude of the
waveform of the variable which is characteristic of the
oscillation behavior of the piezo actuator during the holding
time duration.

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12. (NEW) A method according to claim 2,
wherein the valve is part of a pump/nozzle device with

- a pump, which has a piston and a working space, and
- a control unit, which comprises an outlet duct that is connected hydraulically to the working space, the piezo actuator that forms a valve actuating device, and the valve, whereby the valve comprises a valve element, a valve body, a valve seat and an auxiliary control chamber which is disconnected hydraulically from the outlet duct when the valve element is in contact with the valve seat and which otherwise is connected hydraulically to the outlet duct.

13. (NEW) A method according to claim 12,
wherein the first discharging duration is limited to a minimum value, which ensures that the nozzle needle closes the nozzle.

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14. (NEW) An arrangement for controlling a valve with a valve actuating device, which is provided in the form of a piezo actuator, with a valve element, a valve body and a valve seat, comprising:

- means for moving the valve element at a predeterminable point in time from a predetermined position away from the valve seat into the valve seat by a charging process of the piezo actuator,
- means for dividing the charging process into a first charging duration, during which a predetermined first amount of electrical energy is fed to the piezo actuator, a subsequent holding time duration, during which the piezo actuator is not controlled, and a subsequent second charging duration, during which a predetermined second amount of electrical energy is fed to the piezo actuator, and
- dependent on the waveform of a voltage at the piezo actuator or a current through the piezo actuator which is characteristic of the oscillation behavior of the piezo actuator during the holding time duration, means for adapting the holding time duration and/or the first charging duration in order to ensure precise control of the valve.

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15. (NEW) An arrangement according to claim 14,
wherein the holding time duration and/or the first
discharging duration or the first charging duration is/are
adapted dependent on the amplitude and/or the period of the
waveform of the variable which is characteristic of the
oscillation behavior of the piezo actuator during the holding
time duration.

16. (NEW) An arrangement according to claim 15,
wherein the holding time duration is adapted dependent on
the period of the waveform of the variable which is
characteristic of the oscillation behavior of the piezo
actuator during the holding time duration.

17. (NEW) An arrangement according to claim 15,
wherein the first discharging duration or the first
charging duration is adapted dependent on the amplitude of the
waveform of the variable which is characteristic of the
oscillation behavior of the piezo actuator during the holding
time duration.

18. (NEW) An arrangement according to claim 14,
wherein the sum of the first charging duration and the
holding time duration is limited to a maximum value, which
ensures that the valve element is still in contact with the
valve seat.

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19. **(NEW)** An arrangement according to claim 14,
wherein the valve is part of a pump/nozzle device
comprising

- a pump, which has a piston and a working space, and
- a control unit, which comprises an outlet duct that is connected hydraulically to the working space, the piezo actuator that forms a valve actuating device, and the valve, whereby the valve comprises a valve element, a valve body, a valve seat and an auxiliary control chamber which is disconnected hydraulically from the outlet duct when the valve element is in contact with the valve seat and which otherwise is connected hydraulically to the outlet duct.

20. **(NEW)** An arrangement according to claim 19,
wherein the first discharging duration is limited to a minimum value, which ensures that the nozzle needle closes the nozzle.